

Richter Hernia of the Stomach

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A case report is presented of Richter hernia of the stomach, after en bloc excision of multiple organs for sarcoma of the left upper quadrant of the abdomen. To our knowledge this is the first case reported in the literature. The conditions for the development of this hernia are : (1) the freeing of the greater curvature of the stomach (following removal of the spleen and tail of the pancreas); and (2) fascial dehiscence following a left thoracoabdominal incision involving rib resection.

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KEY WORDS: sarcoma; stomach; abdominal hernia

INTRODUCTION

For a hernia to be considered a Richter hernia, the antimesenteric border of the intestine must protrude into the hernia sac, but never to the point of involvement of the entire circumference of the intestine [1]. A case of Richter hernia of the stomach due to protrusion of the greater curvature through an incisional lateral abdominal wall defect is presented.

CASE REPORT

A 69-year-old black male presented with complaints of chest pain, and underwent coronary bypass at four sites with saphenous vein graft. During that admission a left upper quadrant retroperitoneal sarcoma was also discovered. Subsequent percutaneous biopsy proved sclerosing liposarcoma.

Two months after the coronary artery bypass graft (CABG), the patient was operated on for the retroperitoneal sarcoma. A left subcostal incision was first made to assess the extent of the tumor and then it was extended into the left tenth intercostal space. It was found that the 10th rib and portions of the 11th and 12th ribs were close to the surface of the tumor so they were divided posteriorly in order to be removed en bloc with the tumor. Gross involvement by the tumor of the splenic flexure of the colon, the hilum of the spleen, the tail of the pancreas, the left kidney, and the left adrenal dictated the en bloc resection of all these viscera with the tumor and primary end-to-end anastomosis of the colon. Following hemostasis a large chest tube was placed in the left chest and then the diaphragm was closed with 0 Prolene sutures, actually suturing the diaphragm to the lower border of the

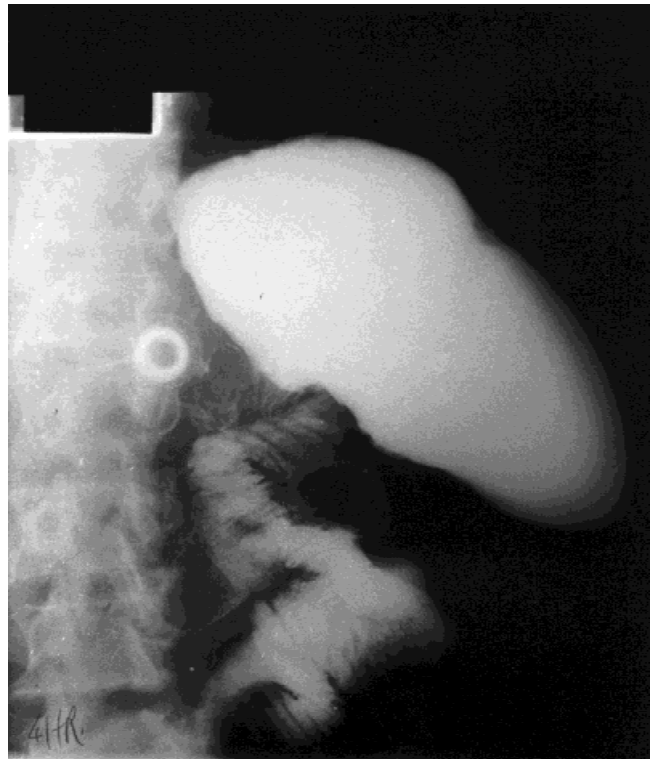


Fig. 1. Although the oral contrast passes into the small intestine, there is evident stasis in the proximal stomach above the site of lateral herniation of the greater curvature.

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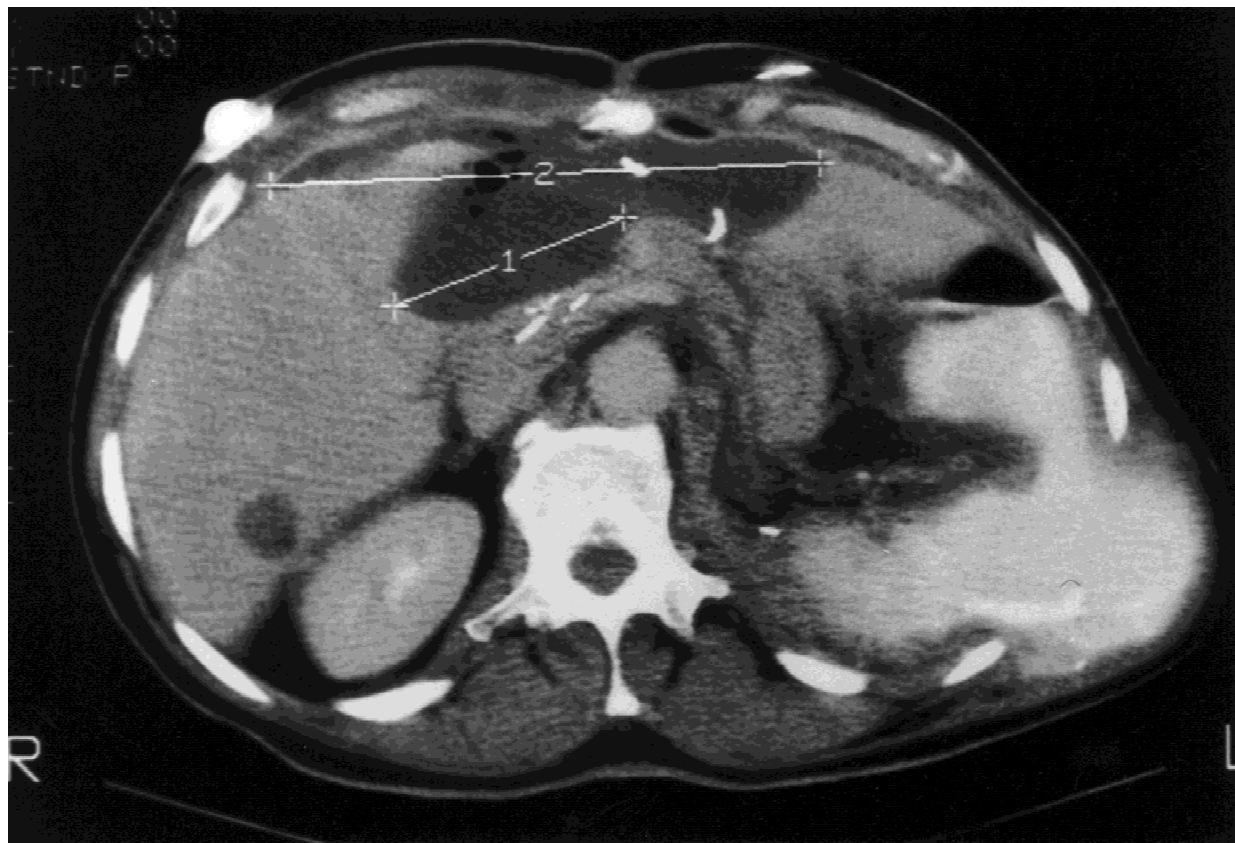


Fig. 2. Computed tomography scan showing herniation of the contrast-filled stomach through the defect between the 9th and 11th ribs.

ninth rib anteriorly. The incision was approximated in layers by using 0 Prolene running sutures to close the subcostal portion of the incision as well as its extension into the left chest.

Shortly after resection of the sarcoma, intravenous chemotherapy was initiated for liver metastases. Following three courses of extensive chemotherapy and due to evidence of progression of the liver metastases, catheters were placed in the right and left hepatic arteries for intra-arterial chemotherapy. The patient tolerated the chemotherapy well with stabilization of his disease.

Six months after his primary sarcoma surgery, the patient complained of persistent nausea and vomiting. On physical examination a soft palpable swelling was present at the thoracic part of the incision. This was reducible with the patient lying in a right lateral position.

An upper GI series showed that the gastric fundus was in the posterior aspect of the left upper quadrant under the diaphragm; the gastric body was located in a lateral position in the left upper abdomen with lateral herniation through the left abdominal and chest wall. The oral contrast accumulated in the proximal portion of the stomach, above the site of the herniation, and would not advance over several hours. (Fig. 1). Subsequent computed tomography of the upper abdomen revealed clearly that a portion of the wall of the stomach herniated between the

left 9th and 11th ribs in the region of the defect produced by the resection of the left 10th rib, causing narrowing of the lumen of the stomach at this point (Fig. 2). The hernia was successfully repaired using polypropylene mesh. The patient's preoperative nausea and vomiting subsided completely after the repair. The patient survived for 9 months after the procedure, when he succumbed to metastatic disease.

DISCUSSION

Richter hernia is a rare medical entity. Among patients with incarcerated hernias, Richter hernia is diagnosed in 4–6.3% in different studies [2,3]. Some report Richter hernia occurring in equal frequencies in the femoral ring and the inguinal site [2], whereas in other studies, the femoral ring is the most common site of protrusion of this type of hernia [4]. Less common sites of protrusion are mentioned in several case reports, e.g., obturator foramen and postoperative ventral hernias [2], sacral foramen [5], Spigelian site [6], and trocar ports after laparoscopic surgery [7,8].

The stomach is the part of the alimentary canal with the largest lumen, situated between the esophagus and the duodenum; it lies in the epigastric, umbilical, and left hypochondrial areas of the abdomen, occupying a recess

bounded by the upper abdominal viscera and completed above and anterolaterally by the anterior abdominal wall and diaphragm. In the case presented, after resection of the tumor en bloc with the spleen, the splenic flexure of the colon, the tail of the pancreas, the left kidney, and the adrenal, the stomach lost its lateral supportive structures and as a result the greater curvature came to slide through an incisional defect. Although upper midline and subcostal incisions are very common and incisional hernias in these areas occur frequently, no herniation of the stomach has been reported through these fascial defects because the flat anterior wall of the stomach, tethered at its curvatures by attachments to surrounding organs, is not prone to bulge anteriorly in a way that part of it can protrude through a fascial defect. The case presented here shows that the freed greater curvature, as it comes to rest upon a lower thoracic-upper abdominal wall defect, can herniate partially, causing a picture of periodic partial

obstruction. To our knowledge, this is the first case of Richter hernia of the stomach presented.

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